IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF WEST VIRGINIA
CHARLESTON DIVISION

IN RE: ETHICON, INC. PELVIC REPAIR SYSTEM PRODUCTS LIABILITY LITIGATION **THIS DOCUMENT RELATES TO: WAVE 1 CASES**	**Master File No. 2:12-MD-02327** **MDL No. 2327** **JOSEPH R. GOODWIN** **U.S. DISTRICT JUDGE**

PLAINTIFFS' RESPONSE IN OPPOSITION TO DEFENDANTS' MOTION TO LIMIT THE TESTIMONY OF PROF. DR. MED. UWE KLINGE

Plaintiffs submit their Response in Opposition to Defendants' Motion to Limit the Testimony of Prof. Dr. Med. Uwe Klinge. For the reasons contained herein, Plaintiffs respectfully request that the Court deny Defendants' motion in its entirety.

I. Introduction

Once again, Ethicon comes before this Court, seeking to preclude the same expert, based on the same testing and opinions. This Court has historically found the bulk of Dr. Klinge's opinions reliable. *Bellew v. Ethicon, Inc.*, No. 2:13-cv-22473, Dkt. 265 (S.D. W. Va. Nov. 20, 2014); *In re Ethicon, Inc., Pelvic Repair Sys. Prods. Liability Litig.*, No. 2:12-MD-02327, 2014 WL 186782 (S.D. W. Va. Jan. 15, 2014). This Court has admonished Ethicon in the past for repeating already rejected arguments in *Daubert* motions – "Ethicon simply rehashes old arguments and, yet again, essentially asks that I reconsider an earlier decision." Despite this admonishment, Ethicon once again comes to this Court asking it "to rethink what the Court ha[s] already thought through – rightly or wrongly." Huskey v. Ethicon, Inc., No. 2:12-cv-05201, 2014 WL 3362287, at *11 (S.D. W. Va. July 8, 2014)(citing *In re C.R. Bard, Inc.*, 948 F. Supp.

2d 589, 649 (S.D. W. Va. 2013). This Court should deny Ethicon's attempt to revive these previously rejected challenges to Dr. Klinge's testimony.

II. Dr. Klinge's Background and Credentials

By this point, the Court is well-aware of Dr. Klinge's exceptional qualifications, including his extensive experience as a trusted consultant for Ethicon and one of the researchers at the forefront of mesh complications. Nonetheless, Ethicon continues to claim that the man they turned to for a decade of mesh research cannot meet the relatively lax *Daubert* standards.

As described in the attached exhibits, Dr. Klinge has been an internationally recognized expert in biomaterials research and the design of surgical meshes for more than 20 years. (Klinge Curriculum Vitae, attached as Exhibit 1; Klinge Report, attached as Exhibit 2, at 2). Dr. Klinge and his collaborators were the innovators of the mesh-related concepts of fibrotic bridging, scar plate formation, effective porosity and lightweight/large pore mesh – concepts that Ethicon came to accept and use. (Exhibit 2, at 6-7). He has authored or co-authored approximately 200 peer-reviewed publications, more than 100 of which are on the topic of surgical meshes. (Exhibit 1, at 2-20; Exhibit 2, at 5).

Ethicon itself retained Dr. Klinge as a consultant from 1994 to 2004 and has relied upon his expertise regarding biocompatibility and tissue response to surgical meshes, as reflected by countless internal documents created and/or exchanged between Dr. Klinge and Ethicon. (Exhibit 1, at 39; Exhibit 2, at 6-9; Klinge Dep. 11/14/2013, attached as Exhibit 3, at 95:18-96:16; Klinge Dep. 10/22/2012 attached as Exhibit 4, at 92:3-9). A few of the many examples are as follows:

- Ethicon recognized Dr. Klinge as a "Global Thought Leader" in hernia repair technology and a member of Ethicon's "Technology sub Strategy Team." (ETH.MESH.05920626, attached as Exhibit 5).

- In its September 2012 Clinical Expert Report for Gynecare Prolift+M, Ethicon cited to a publication co-authored by Dr. Klinge regarding evaluation of different polypropylene-mesh modifications for abdominal wall repair. (ETH.MESH.08315779, attached as Exhibit 6).
- Ethicon has relied upon Dr. Klinge and Dr. Mühl's publication regarding effective porosity and pore size measurement. (ETH.MESH.00006796, attached as Exhibit 7, at 9; ETH.MESH.02184130, attached as Exhibit 8, at 1).

Dr. Klinge's work in developing the mesh that was ultimately patented and sold by Ethicon as "Vypro" resulted in defining the minimum distance necessary between pore fibers as 1000 microns (or 1 mm), to prevent the pores from filling with scar tissue and hardening the mesh. (Exhibit 2, at 6-7, 12, 16; Klinge Dep. 11/4/2015, attached as Exhibit 9, at 20:16-22:15). In 2002, Dr. Klinge co-authored a groundbreaking publication regarding this pore size requirement titled: "Impact of polymer pore size on the interface scar formation in a rat model." J. Surg. Res. 2002 Apr; 103(2):208-14. (Exhibit 1, at 5). As noted in that peer-reviewed journal article, the scientific work detailed therein was funded by Ethicon.

Dr. Klinge testified that Ethicon has invited him on dozens of occasions to lecture on the topic of safer mesh designs for hernia and pelvic floor repair. (Exhibit 9, at 30:20-24). Ethicon specifically invited him, many times, to speak about a new generation of lighter-weight meshes with larger pores. (Exhibit 9, at 31:6-10). This included an invitation to lecture and report on the history and development of Vypro. (Exhibit 9, at 31:11-24). In 2005, he co-authored another groundbreaking publication on that subject – "The lightweight and large porous concept for hernia repair." Expert Rev. Med. Devices. 2005; 2(1). (Exhibit 1, at 11). In 2007, Ethicon invited Dr. Klinge to give presentations regarding his experiences with textiles in surgery. ("Pelvic Floor Mesh Forum," attached as Exhibit 10; "Wissenschaftliche Grundlagen und klinische Evidenz

von Netz-Implantaten," attached as Exhibit 11; "Experimental investigations with alloplastic materials: Which properties are essential for use at the pelvic floor?" attached as Exhibit 12).

Ethicon's Worldwide Medical Director and designated corporate representative from medical affairs, Dr. Piet Hinoul, testified during the first Prolift trial in the United States that "[t]here's not many people in the world that make a living researching mesh in human specimens and in animal specimens. It's a very specific part of research." (1/16/13 Trial Transcript, *Gross, et al. v. Ethicon, Inc., et al.*, Superior Court of New Jersey, Atlantic County, Civil Division, No. ATL-L-6966-10, attached as Exhibit 13, at 1113:19-1113:24). He went on to testify that Dr. Klinge "is one of them" and agreed that he is highly qualified in that field. (Exhibit 13, at 1113:25-1114:4). Additionally, at his deposition, Dr. Hinoul testified that he would defer to Dr. Klinge's data as to whether the pores in the Prolift mesh collapse or deform in regular use. (Hinoul Dep. 9/19/2012, attached as Exhibit 14, 1054:18-24).

Finally, in addition to this Court finding Dr. Klinge capable and qualified to testify on the design and *in vivo* properties of mesh, as well as the human response to those properties, on February 4, 2013, the Honorable Carol E. Higbee of the Superior Court of New Jersey, Atlantic County, ruled that Dr. Klinge was qualified as an expert in the fields of abdominal surgery, biomaterial science, tissue reaction and tissue engineering, and histopathology for surgical meshes in the human body. (2/4/13 Trial Transcript, *Gross, et al. v. Ethicon, Inc., et al.*, Superior Court of New Jersey, Atlantic County, Civil Division, No. ATL-L-6966-10, attached as Exhibit 15, at 3405:3-11).

Ethicon retained Dr. Klinge as a mesh consultant for 10 years because he is a world leader in the study and research of mesh biocompatibility and tissue response. Ethicon's internal documents reflect that Ethicon continues to rely upon Dr. Klinge's research and conclusions,

which he formed, in substantial part, during his years as a consultant for Ethicon – not for purposes of litigation.

III. Law and Argument

A. Dr. Klinge's opinion that Ultrapro mesh is a feasible alternative design to polypropylene mesh is reliable and should be admitted.

As an initial matter, "the West Virginia Supreme Court has not stated one way or the other whether a design defect claim requires proof of a safer alternative design of the allegedly defective product," and thus there are no concrete parameters as to the sufficiency of a proposed alternative. *Keffer v. Wyeth*, 791 F. Supp. 2d 539, 549 (S.D. W. Va. 2011). Accordingly, this Court has rejected certain proposed criteria, such as whether "a plaintiff must prove that an alternative drug design would have specifically prevented her injuries." *Mullins v. Ethicon, Inc*., No. 2:12-cv-02952, Dkt. No. 38, at 17 (S.D. W. Va. Aug. 5, 2015).

Here, Ethicon attempts to limit Dr. Klinge's opinion that Ultrapro mesh is a safer alternative to Prolene mesh, largely on the basis that Dr. Klinge does not think Ultrapro mesh is perfect. But Dr. Klinge is not required to establish that Ultrapro is a no-risk device in order to testify that it is safer than Prolene. *See General Motors Corp. v. Sanchez*, 997 S.W.2d 584, 588 (TExhibit 1999) (noting that a proposed alternative design must only *reduce the risk* of injury). In his most recent deposition, Dr. Klinge identified Ultrapro as a mesh superior to Prolene when it is used to reinforce tissue, due to its large pores decreasing the negative tissue response. In support, Dr. Klinge cites Okulu, E., et al, (2013), *Use of three types of synthetic mesh material in sling surgery. A prospective randomized clinical trial evaluating effectiveness and complications*, Scandinavian J. of Urology, 2013, 47:217-224, also listed in his reliance list. (*See* Exhibit 9, at 284:2-285:20.) The study concluded that "Ultrapro mesh can be used in sling surgery due to its higher success rates, and its lower vaginal and urethral extrusion and de novo urgency rates, which have also been shown in clinical studies." Thus, Ethicon's primary

objection to Dr. Klinge's testimony on this subject—that "he lacks the support in testing and peer-reviewed studies that Federal Rule of Evidence 702 requires—is demonstrably false.

Further, in his report, Dr. Klinge spends pages and pages explaining the basis for his opinion (and the opinion of multiple Ethicon scientists) that lighter-weight, larger-pore mesh like Ultrapro is safer than Prolene. (Exhibit 2, at 9-15 (detailing, with citation to published articles, Ethicon documents, and deposition testimony, "Ethicon's attempts to develop lighter weight, large pore meshes and the multiple reasons for doing so") (incorporated by reference)). After surveying the relevant literature, Dr. Klinge concludes that "the greater the surface area of a medical implant, the greater the foreign body reaction and the inflammatory response will be," and that "the smaller the distance between the fibers of a mesh implant, the greater the risk of scar tissue forming in the pores." (Exhibit 2, at 11, 15).

This Court has repeatedly announced that Dr. Klinge is qualified to testify on these subjects, and that his bases for doing so are reliable. *Bellew v. Ethicon, Inc.*, No. 2:13-cv-22473, Dkt. 265 (S.D. W. Va. Nov. 20, 2014); *In re Ethicon, Inc., Pelvic Repair Sys. Prods. Liability Litig.*, No. 2:12-MD-02327, 2014 WL 186782 (S.D. W. Va. Jan. 15, 2014). Inasmuch as Ethicon objects to Dr. Klinge's testimony because he has some reservations about the use of Ultrapro, those issues are fodder for cross-examination, not grounds for exclusion. *See Winebarger v. Boston Scientific Corp.*, No. 2:13-cv-28892, 2015 WL 1887222, at &10 (S.D. W. Va. April 24, 2015) (alleged "[c]ontradictions in testimony should be addressed on cross-examination") (citing *Daubert v. Merrell Dow Pharm., Inc.*, 509 U.S. 579, 596 (1993) ("Vigorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof are the traditional and appropriate means of attacking shaky but admissible evidence.")) Dr. Klinge has thoroughly explained why a lighter-weight, larger-pore mesh like Ultrapro reduces the risk of certain injuries as compared to Prolene. That is, at most, all that is required.

B. Dr. Klinge's opinion that PVDF mesh is a feasible alternative design to polypropylene mesh is reliably based, and should be admitted.

This Court has already issued a well-reasoned *Daubert* opinion finding the challenged opinion to be proper in light of many of the same arguments from Ethicon. *In re Ethicon*, 2014 WL 186782, at *6-7. As previously stated by this Court, "[I]n his expert report, Dr. Klinge cites several academic articles and studies for the proposition that PVDF does not degrade like polypropylene and that PVDF meshes show little signs of surface cracking, inflammation, or scar formation after implantation." *Id.* The Court then listed some of the PVDF publications referenced by Dr. Klinge in his *Lewis* report, all of which are cited in the same form in the report prepared for this litigation.

Specifically, Dr. Klinge bases his opinion that PVDF is a superior alternative to polypropylene on the same studies the Court cited as a reliable basis in *Lewis*. (Exhibit 2, at 37 (citing Klink, et al, Silva, et al, Conze, et al, Klinge, et al, and Laroche, et al)).[1] Klinge's own peer-reviewed study, published in 2002, was designed to "develop a monofilament mesh made of pure PVDF" and demonstrated that the "PVDF material had a better performance in the tissue than Prolene." (Exhibit 2, at 36). As Dr. Klinge describes, Ethicon supported the study by providing one of their PVDF meshes for testing. *Id*. Dr. Klinge goes on to cite Ethicon's own scientists for the proposition that PVDF "has a reduced foreign body reaction compared to Prolene . . . and will improve the perceived biocompatibility of our mesh." (Exhibit 2, at 37). Unsurprisingly, Ethicon does not attempt to distinguish this Court's decision in *Lewis*. Instead, Ethicon cherry-picks a few statements in Dr. Klinge's testimony, suggesting that those handful of sentences refute the wealth of information provided in Dr. Klinge's report. These half-hearted attempts to undermine Dr. Klinge's opinions with deposition testimony go to weight and

[1] Dr. Klinge goes on to cite Celine Mary, et al., and Otto, et al. as well. Exhibit 2, at 38.

credibility, not admissibility. *See Winebarger*, *supra*. As stated, Dr. Klinge is not required to produce a risk-free alternative.

Perhaps realizing the futility of their position in light of prior decisions, Ethicon argues that, because PVDF has not received FDA clearance, which Ethicon claims without any support is a "threshold criteria for qualifying as a safer alternative design," PVDF cannot possibly serve as a safer alternative design. As stated, there are no "threshold criteria" in West Virginia as to the sufficiency of a proposed alternative design. *Keffer*, 791 F. Supp. 2d at 549. Further, given Ethicon's history with PVDF, it is absurd to argue that the company's unilateral decision to scrap the design due to costs should allow them to escape liability on the basis that the design was "unavailable."

As explained by Dr. Klinge, Ethicon studied the efficacy of PVDF beginning in 1998, and in fact received 510(k) clearance in 2000 for a PVDF suture. (Exhibit 2, at 36-37). Following a number of internal Ethicon studies revealing that PVDF mesh improved biocompatibility, had fewer quality issues, and had less breakage when compared to Prolene, Ethicon determined that PVDF mesh was the "holy grail" of pelvic floor meshes. (Exhibit 2, at 37). Ethicon's sole basis for refusing to seek FDA clearance for the PVDF devices was expense-related. (Exhibit 2, at 37). Thus, PVDF mesh was clearly available to Ethicon as an alternative to Prolene devices.

In accordance with such reasoning, this Court previously ruled against BSC on the same type of argument Ethicon lodges here:

> BSC next argues that Ms. Winebarger cannot offer substantial evidence that BSC failed to adopt a safer, practical, feasible, and otherwise reasonable alternative design. Ms. Winebarger, however, offers evidence suggesting that a different mesh prototype was offered to BSC two years before Ms. Winebarger's surgery. (Resp. Mem. in Supp. [Docket 59], at 10-11 (citing Letter from Peter H. Gingras, Managing Partner, Proxy Biomedical Ltd., to James Goddard, BSC (Oct. 24. 2008) [Docket 59-18])). Furthermore, Ms. Winebarger demonstrates that BSC was cognizant of the benefits of a lighter mesh, (Resp. Mem. in Supp. [Docket 59], at 11 (citing Memo from Jim Goddard to Al Intoccia, et al. (Nov. 25, 2008) [Docket 59-4])), including the expectation that "less mesh leads to less

> inflammation which leads to better outcomes (less dyspareunia, less erosions, less PP degradation over time)." (Resp. Mem. in Supp. [Docket 59], at 11 (citing E-mail from John Sherry to Abby Fischer, et al. (May 29, 2009, 1:17 AM) [Docket 59-10])). Accordingly, a reasonable juror could determine that BSC failed to adopt a reasonable alternative design.

In re Boston Scientific Corp., No. 2:13-cv-28892, 2015 WL 1509380, at *6 (S.D. W. Va. April 1, 2015); *see also Sanchez*, 997 S.W.2d at 592 ("qualified expert testimony on the issue [of alternative designs] suffices, even though the expert has produced no prototype, if it reasonably supports the conclusion that a reasonable alternative design could have been practically adopted at the time of sale") (quoting RESTATEMENT (THIRD) OF TORTS: PRODUCTS LIABILITY § 2 cmt. f (1998)). As demonstrated above, Dr. Klinge's report details the same type of evidence with respect to Ethicon's consideration of PVDF that the Plaintiff put forth in her case against Boston Scientific. Dr. Klinge should be permitted to offer his opinion that Ethicon could have—and should have—implemented PVDF in its products.

The out-of-circuit district court opinions relied on by Ethicon are easily distinguishable. First of all, both involved pharmaceutical drugs that the FDA actually approves, as opposed to a medical device that can come to market via the 510(k) clearance process. Moreover, In *Wolfe v. McNeil-PPC, Inc.*, 773 F.Supp.2d 561, 572 (E.D. Pa. 2011), the plaintiff apparently offered no safer alternative at all, and in *Militrano v. Lederle Laboratories*, 3 Misc. 3d 523, 538 (N.Y.S.2d 2003), the proposed alternative was deemed unreasonable because "the record demonstrates that the FDA and the scientific community in this country had concerns regarding the efficacy of the [alternative] that precluded its earlier approval." Ethicon has offered no such rebuttal evidence here.

Next, Ethicon argues without explanation that because PVDF may be "more difficult to handle" than Prolene, PVDF "alters a fundamental and necessary characteristic of the product," and thus is not a reasonable alternative design. *See Keffer*, 791 F. Supp. 2d at 549. At no point does Ethicon explain how a minor concern like the ability to "handle" the product is akin to the

suggestion that a "motorcycle could be made safer by adding two additional wheels and a cab." *Id.* (citing *Caterpillar, Inc. v. Shears*, 911 S.W.2d 379, 385 (TExhibit 1995)). In any event, "the reasonableness of an alternative design is generally a question of fact for the jury," *id.*, and Ethicon is free to attempt to elaborate before a jury on the "fundamental and necessary" character of ease of handling.

Similarly, Ethicon offers the conclusory allegation that PVDF is "unreasonably expensive," on the simple basis that PVDF is "more expensive" than Prolene. Obviously, the mere fact that item A is more expensive than item B does not mean that item A is unreasonably expensive. Ethicon's argument should be readily rejected.

Ethicon offers a separate argument that Dr. Klinge's opinions and testimony on the safer alternative designs to Prolene Soft should be excluded. In doing so, Ethicon makes a distinction without a difference between the Prolene and the Prolene Soft. Both products are constructed from Ethicon's polypropylene; Dr. Klinge's opinions and testimony that PVDF is a safer alternative material to Ethicon's polypropylene mesh are founded on the multitude of studies and documents cited above and within his report. The extent to which Ethicon would seek to make a distinction between the two products is properly suited to be fodder for cross-examination, not grounds for arbitrary exclusion.

C. Dr. Klinge's testimony regarding degradation, particle loss, and fraying of the Prolene, Prolene Soft, and Prolene sutures is reliable and should be admitted.

This Court has already issued well-reasoned *Daubert* opinions permitting this testimony. *In re Ethicon, Inc., Pelvic Repair Sys. Prods. Liability Litig.*, No. 2:12-MD-02327, 2014 WL 186782, at *6 (S.D. W. Va. Jan. 15, 2014); *Bellew v. Ethicon, Inc.*, No. 2:13-cv-22473, Dkt. 265, at 14-17 (S.D. W. Va. Nov. 20, 2014). This is at least the third time that Ethicon has presented the same arguments regarding Dr. Klinge's testimony on degradation, particle loss, and fraying. No basis is presented for this Court to reverse or modify the previous rulings.

As in *Lewis* and *Bellew*, Ethicon again argues that Dr. Klinge should be precluded from testifying about degradation, fraying and/or particle loss because, supposedly, Dr. Klinge has not cited a clinical study suggesting that degradation has a biological effect.[2] For support, Ethicon relies on the same deposition testimony from 2013 that this Court previously considered. *See In re Ethicon*, 2014 WL 186782, at *6; *Bellew*, *supra*, at 15.

> Next, the defendants contend that "the [c]ourt should further exclude Dr. Klinge's general opinion that the Prolift is defective because its mesh degrades in vivo and is subject to fraying and particle loss" because he cannot explain the clinical significance of these alleged conditions. (Defs.' Mem. re: Klinge [Docket 102], at 3). I disagree. In his expert report, Dr. Klinge ascribes particular complications to degradation, fraying, and particle loss. For instance, when discussing degradation, he states "that oxidation of mesh . . . . leads to embrittlement of the material, impaired tissue mobility and eventually chronic pain." (Klinge Report [Docket 101-2], at 18). In his discussion of fraying and particle loss, Dr. Klinge also states that "particulates scattered throughout the pelvic tissue will create an inflammatory response of some magnitude; will increase the overall foreign body reaction and inflammatory response; will increase the amount of the fibrotic reaction; and will run the risk of migrating into other parts of the body." (*Id.* at 21). Furthermore, throughout both of these sections of his expert report, Dr. Klinge supports his opinions, at least in part, by citing to peer-reviewed, published literature. (*See* Klinge Report [Docket 101-2], at 18-21 (citing studies by Costello, Clave, and Moalli, to name a few)). Therefore, consistent with my decision in *Lewis*, I **FIND** that Dr. Klinge is permitted to testify generally about polypropylene's tendency to degrade, fray, or lose particles and its effect on the human body. *See* 2014 WL 186872, at *7.

Bellew, *supra*, at 15.

Similarly here, Dr. Klinge writes that "[m]ore fibers migrating in the tissues create an additional foreign body reaction and inflammatory response at the site of each piece of TVT mesh fiber in the body causing an increased risk of harm to patients, including chronic pain." (Exhibit 2, at 33.) He also notes that "[t]he curled, frayed, sharp edges and the dislodged, migrating particles of the TVT MCM products increase the risk of increased inflammatory response, chronic foreign body reaction, erosions, chronic pelvic pain, failure of the implant,

[2] Ethicon does not challenge Dr. Klinge's opinion that Prolene mesh does in fact degrade, fray, and lose particles, a proposition with ample support. (Exhibit 2, at 29-36).

dyspareunia, organ damage, urinary dysfunction and the need for surgical intervention." (Exhibit 2, at 36.) As in *Bellew*, Dr. Klinge relies on a number of articles, including ones showing that particles "cause a greater risk for bacterial adherence," and that materials other than Prolene do not degrade or crack and have "superior biostability to polypropylene" and "low inflammation and mature scar formation." (Exhibit 2, at 30, 38.) And all the studies the Court noted in its prior opinion are, unsurprisingly, once again listed as a basis for Dr. Klinge's opinions in this matter.

Further, Dr. Klinge has previously explained in this litigation that degradation, particle loss, and fraying are associated with increased inflammatory reaction and infection due to an increase in surface area. (Klinge Dep. 11/15/2013, attached as Exhibit 16, at 415:6-16:13; 507:17-24). He explained that "an increased surface means enhancement of [bacterial adherence, tissue response, and cellular response]." *Id.* These responses result in an increase in scar tissue and an increase in risks. *Id.* He further testified, "I have no doubts that surface cracking and enhancement of surface leads to a higher risk for complications. That is a clear relationship, causal relationship that is proven by all our experience and all of this work." *Id.* at 512:17-513:9. "In the worst case for a patient, it can be a malignant transformation because you have 30 years of chronic inflammation. We know this from medicine in general. Chronic inflammation over 30 years may cause some malignant transformation, and, this was, of course, the severest complications for the patients, yeah." *Id.* at 514:4-11). In his most recent deposition, Dr. Klinge testified again as to the connection between surface degradation and inflammation. (Exhibit 9, at 158:1-159:16). In sum, Dr. Klinge makes clear that mesh degradation, fraying, and particle loss result in an increased risk of an increased inflammatory reaction and infection, which in turn, results in an increased risk of chronic inflammation and malignant transformation.

Neither Dr. Klinge's opinions, nor the bases for those opinions, have changed since the last time Ethicon brought this argument before the Court. Ethicon cannot—and indeed does not

try—to distinguish this Court's prior rulings. As this Court has previously recognized, Dr. Klinge should be permitted to testify on degradation, fraying, and particle loss, as well as the biological effects of those defects.

Finally, Ethicon argues that Dr. Klinge should not be permitted to offer any degradation opinion as to Prolene sutures, because "[a]ny such opinion would be preempted by federal law." Specifically, Ethicon takes issue with Dr. Klinge's citation to Ethicon's own seven-year dog study, which found that "Prolene sutures showed progressive degradation." (Exhibit 2, at 38).

Preemption, obviously, concerns causes of action, and Ethicon cites exactly zero authorities for the proposition that an opinion can be "preempted," or that any mention of a preempted device must never be uttered in a courtroom. Dr. Klinge is not testifying that Prolene sutures are defectively designed or unreasonably dangerous; rather, he points to a study of sutures as one of many examples of scientific research revealing *in vivo* degradation of Prolene.

Ethicon argues that this Court should permit FDA approval of Prolene sutures as rebuttal evidence to the dog study, because "Dr. Klinge would be free to testify that Prolene sutures degrade *in vivo*, but the Defendants would be unable to rebut this opinion with evidence that the FDA did not find degradation, if any, to be clinically significant…." This is a new spin on the same tired argument. As this Court as repeatedly held:

> Although Ethicon represents that the products are primarily composed of the same material, it does not automatically follow that the material is safe in both devices. The Prolene suture is a nonabsorbable surgical suture; the TVT is a form of transvaginal mesh. The Prolene suture consists of a single filament of polypropylene; the TVT is a mesh woven from knitted Prolene filaments. The average Prolene suture is a few inches long; the TVT measures one-half inches by sixteen inches, and contains many times the amount of polypropylene material. The Prolene suture is not intended to adhere to human tissue; the TVT is designed to adhere to human tissue. The Prolene suture is designed to be easily pulled out of the body; the TVT cannot be removed without invasive surgery.
>
> The FDA's approval of the Prolene suture necessarily related to its use as a suture; it did not categorically approve Prolene filament for use in medical

> devices. When the FDA approved the Prolene suture, it stated that it had concluded the Prolene suture was "safe and effective for use *as recommended in the submitted labeling*." (Defs.' Mot. for Summ. J. Exhibit 4 (FDA Approval Letter) [Docket 128-5], at 1) (emphasis added)). The FDA did not examine whether that same material was safe when woven together to create a transvaginal mesh product. Ethicon would like the court to determine that because the FDA found polypropylene is safe to use as a suture, it is automatically safe to use in transvaginal mesh. Although purportedly constructed of the same material, it is a different product, used in a different manner, for a different purpose.

Lewis v. Johnson & Johnson, 991 F. Supp. 2d 748, 758-61 (S.D. W. Va. 2014). Thus, FDA approval is not relevant to this litigation, in the form of rebuttal testimony or otherwise. If Ethicon wishes to present rebuttal testimony showing that Prolene does not degrade, they can do so, but FDA approval does not further that proposition.

Further, even assuming the relevance of FDA approval of Prolene sutures, the proposed rebuttal evidence would naturally lead to a trial-within-a-trial on FDA clearance, which this Court has repeatedly excluded under the 403 balancing test. *See, e.g., id.* at 756. In sum, Ethicon has offered no persuasive basis for excluding opinions on degradation of Prolene polypropylene sutures, and as such its motion to exclude should be denied.

D. Plaintiffs will not elicit testimony in cases involving Prolift+M from Dr. Klinge.

Plaintiffs will not elicit testimony from Dr. Klinge in cases involving the Prolift+M device, including *Freeman v. Ethicon*, No. 2:12-cv-00490 and *Walker v. Ethicon*, No. 2:12-cv-00873. As such, Ethicon's motion to exclude should be denied as moot.

E. Plaintiffs will not elicit testimony concerning Ethicon's knowledge, state of mind, and corporate conduct from Dr. Klinge.

Plaintiffs will not elicit testimony from Dr. Klinge regarding Ethicon's knowledge, state of mind, or corporate conduct. As such, Ethicon's motion to exclude should be denied as moot.

F. Dr. Klinge's opinions regarding effective porosity and pore deformation are reliable and relevant and should be admitted.

Ethicon's criticism of Dr. Klinge's opinions regarding "effective porosity" is contrary to this Court's prior rulings.[3] This Court has previously considered and rejected a challenge to the effective porosity theory in the Bard MDL. (*Cisson v. C.R. Bard, Inc.*, C.A. No. 2:11-cv-00195, Dkt. No. 274, pp. 34-36 (noting that effective pore size theory had been peer-reviewed and published in a peer-reviewed publication, and Bard's contention that the theory was not widely accepted was not dispositive)). Ethicon argues that "effective porosity" opinions are irrelevant without a safer alternative design. Dr. Klinge specifically identified safer alternative designs, including the PVDF, that maintain safe porosity. (Exhibit 9, at 98:12-99:8). He further testified regarding the relevance of effective porosity in mesh devices, saying:

> "the size of the holes is critical for the safety of the patient. When the size of the holes is too small, then the entire hole will be filled by scar tissue and the entire area of the mesh is filled by scar tissue, and scar tissue make sit very stiff and rigid and it's not stretchable any longer. It favors shrinkage and stretch and deformation of the mesh."

(Exhibit 9, at 22:5-15). Moreover, Ethicon has cited to and embraced Dr. Klinge's effective porosity concept on numerous occasions.

"Effective porosity," a concept pioneered by Drs. Klinge and Mühl, is a manner in which to analyze the critical nature of pore size *once it is implanted in the human body.* (Exhibit 2, at 19). Drs. Klinge and Mühl have concluded that the effective porosity necessitates maintaining pore sizes of greater than 1 mm after stretch. (Exhibit 2, at 19).

[3] In its motion to exclude Dr. Klinge's testimony on effective porosity, Ethicon attempted to incorporate arguments made in its motion to exclude opinions and testimony of Dr. Mühl. Plaintiffs are unsure as to what Ethicon is referring; Ethicon did not file a motion to exclude the opinions and testimony of Dr. Mühl in Wave 1 cases. Regardless, this Court has previously rejected Ethicon's argument to exclude Dr. Klinge's testimony on effective porosity testing by incorporating arguments to exclude Dr. Mühl. *Bellew v. Ethicon, Inc.*, No. 2:13-cv-22473, Dkt. 265 (S.D. W. Va. Nov. 20, 2014) at 15-16.

Ethicon has long recognized the problem of pore deformation due to in vivo forces and has contemplated design changes to address the problem. In an internal document, Ethicon acknowledged that its pelvic floor mesh was less effective in vivo than expected and that the mitigation strategy was to "[r]efine [c]oncept, redo in vivo tests." (ETH.MESH.02590870, "Thunder Pipeline Leadership Team" PowerPoint, attached Exhibit 17).

Moreover, Ethicon has cited to and embraced Dr. Klinge's effective porosity concept on numerous occasions. In a document titled, "Biomechanical consideration for Pelvic floor mesh design," Ethicon scientists acknowledge that there is evidence that "***meshes shrink in vivo*** leading to increased stiffness, pain, and poor restoration of the normal properties of the vagina compliance." (ETH.MESH.02010834, "Biomechanical consideration for Pelvic floor mesh design," attached as Exhibit 18 (emphasis added)). They further acknowledge that "[t]o be able to define the most appropriate design parameters . . . it is important to generate an advanced understanding of the pelvic floor biomechanics and associated mechanical boundary conditions (e.g. ***pelvic floor forces***)." (*Id.* (emphasis added)). Ethicon's scientists then state: "Lightweight mesh with reduced polypropylene density and larger pore sizes between filaments has shown a pronounced reduction in inflammation and improved integration into surrounding tissue in humans (Klinge et al., 1999)." (*Id.*). They again cite Klinge, stating:

> Large-pore mesh integrates in a loose network of perifilamentous fibrosis with fat tissue present in between. In contrast, the small-pore mesh incorporates entirely in perifilamentary granulomas and scar tissue, which bridged the whole pore diameter of less than 1 mm (Klinge et al., 2002). It appears that the greater distance between pores resists the ability of "bridging fibrosis" [ ], contributing to improved compliance and theoretically less passive compression or shrinkage of the biomaterial.

(*Id.*).

Notably, when Ethicon first received the Klinge/ Mühl publication regarding effective porosity, it was distributed with an e-mail from Ethicon's Worldwide Marketing Director stating, "Interesting article that may give us some guidance on what we measure on the mesh characterization. Aachen has a ***very sophisticated set up***, but does address the question of what should be measured and what is the relevance of the measurement." (ETH.MESH.02184130, attached as Exhibit 19 (emphasis added)).

Additionally, an Ethicon R&D scientist was shown Dr. Mühl's effective porosity study and testified that it sounded like a valid test and that she believed that it would be a good test for Ethicon to explore in order to determine the effective porosity and effective porosity under strain of their pelvic meshes. (Zaddem Dep., 3/28/12, at 387:14-20).

Ethicon now seeks to exclude Dr. Klinge's opinions relating to the effective porosity concept, even though Ethicon's own scientists have accepted this concept for many years. Ethicon seeks such an exclusion because it has chosen not to re-design its transvaginal meshes to adhere to the concept, but instead, to continue to market and sell a defectively designed mesh.

III. Conclusion

Based on the foregoing, plaintiffs respectfully request that this Court deny Ethicon's motion in its entirety.

Dated: May 9, 2016.

Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that on May 9, 2016, I electronically filed the foregoing document with the Clerk of the court using CM/ECF system which will send notification of such filing to the CM/ECF participants registered to receive service in this MDL.

Respectfully submitted,

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